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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF AVISTA CORPORATION FOR A FINDING OF PRUDENCE FOR 2014-2015 EXPENDITURES ASSOCIATED WITH PROVIDING ELECTRIC AND NATURAL GAS ENERGY EFFICIENCY SERVICE IN THE STATE OF IDAHO	CASE NO. AVU-E-16-06 [redacted]
	DIRECT TESTIMONY OF DAN JOHNSON

FOR AVISTA CORPORATION

(ELECTRIC AND NATURAL GAS)

I. INTRODUCTION

Q. Please state your name, employer and business address.

A. My name is Dan Johnson. I am employed by Avista as Director, Energy Efficiency. My business address is East 1411 Mission Avenue, Spokane, Washington.

Q. Would you please describe your education and business experience?

A. I graduated from the University of Washington with Bachelor of Science degree in Civil Engineering. I received a Masters in Engineering Management degree from Portland State University.

I joined the Company in 2010 as the Project Manager for the Smartgrid Demonstration Project. I began my current duties as the Director of Energy Efficiency in June of 2014.

Prior to joining Avista, I was employed by the Spokane International Airport where I was the Director of Engineering and Planning and prior to that I was with Pacific Gas Transmission Co, a high pressure gas transmission company.

Q. What is the scope of your testimony in this proceeding?

A. I will provide an overview of the Company's 2014-2015 Idaho DSM portfolio results and expenditures for electric and natural gas efficiency programs. I address Avista's involvement with the Northwest Energy Efficiency Alliance (NEEA), the status of the Company's recent re-instated natural gas DSM programs, and the evaluation by Avista's third-party contractor "Nexant" I will also provide an update on the Company's university research and development activities.

Q. Do you sponsor exhibits?

A. Yes, I present three exhibits. Exhibit No. 1, Schedule 1 is Avista's 2014 Annual Demand-Side Management Report, and Schedule 2 is Avista's 2015 Annual Demand-Side Management Report. These reports include the summary of DSM energy savings and a summary of electric DSM cost-effectiveness. Exhibit No. 1, Schedule 3 is a summary of 2015 research and development projects, funded by the DSM tariff rider.

II. OVERVIEW OF DSM PROGRAMS AND CURRENT ISSUES

Q. Would you please provide a brief overview of Avista's DSM programs?

A. Yes. Avista has continuously offered energy efficiency services since 1978. This is the twenty-second year of the DSM tariff rider, a distribution charge to fund DSM that is now replicated in many other states. Schedule 91 currently has a rate equal to 2.7% of retail revenue for electric service, and the Schedule 191 rate is 2.2% of retail revenue for natural gas.

As described, the Company's programs are delivered across a full customer spectrum. Virtually all customers have had the opportunity to participate and many have directly benefited from the program offerings. All customers have benefited through enhanced resource cost-efficiencies as a result of this portfolio approach.

Q. What were the Company's energy efficiency targets and results for 2014-15?

A. The Company's energy efficiency targets are established in the process of developing the Electric and Natural Gas Integrated Resource Plans (IRPs). The targets derived through the resource planning efforts provide a

starting point for program planning which is accomplished through the annual business planning process where program offerings are optimized for the Company's service territory based on current economic and market conditions.

The results of Avista's energy efficiency programs exceeded the 2014 IRP target but fell short in 2015 of the targets established as part of this IRP process, as shown in Table No. 1 below. Idaho energy efficiency savings for 2014 were 16,292 MWh and savings for 2015 were 14,789 MWh. This represents 100% of the Company's two-year IRP target of 30,996 MWh for this period, not including 4,030 first-year MWh acquired through NEEA.

Table No. 1

Time Period of Reported Savings	Local Evaluated MWh Savings	IRP Target	Percent Achieved
2014	16,292	15,330	106%
2015	14,789	15,666	94%
2014-2015	31,081	30,996	100%

Avista's 2014-15 Annual Reports provided in Exhibit No. 1, Schedules 1 and 2 support these figures.

Over 197 aMW of cumulative savings have been achieved through Avista's energy efficiency efforts in the past thirty-eight years, of which 127 aMW of DSM is currently in place on the Company's system, and approximately 37 aMW in

our Idaho service territory. Current Company-sponsored conservation reduces retail loads by 11.0 percent.

In January 2016 Avista re-instated its Idaho natural gas programs after working with the Commission Staff to evaluate new cost effective data and analysis. Avista is now providing natural gas incentive programs for both residential and commercial customers. We are currently seeing increased awareness with rebates of $579,277 and therm savings of 92,964 from January through July 2016.

Q. How does Avista make available its DSM program offerings and educate customers about energy savings?

A. Avista provides opportunities for customers to learn about rebates we offer as well as tips on how to better manage their home and business energy usage. We utilize broadcast media with our "Efficiency Matters" campaign to help increase awareness about energy efficiency. We also use online, radio, and print advertising – as well as our website, avistautilities.com – to help educate customers on rebates and energy savings tips. Our "Energy Use Guide" contains information that can be utilized throughout the year to help encourage efficient use of space heating and cooling, appliances, electronics, and more. Online tools on our website can perform a free energy analysis to help

customers have a better understanding of how energy is being used in their home, and outline the top ways they can save energy. Home Energy Reports are also delivered to a randomly selected group of approximately 25,200 Idaho customers annually. The reports are designed to help customers better assess their energy consumption and explore ways to reduce their energy use.

In addition, both residential and nonresidential customers have access to direct outreach activities. Avista offers energy fairs and workshops for residential customers, with emphasis given to low-income customers. Direct outreach for nonresidential customers is delivered through account executives and efficiency engineers who provide on-site information regarding energy savings opportunities and available program information.

Q. Please describe the residential DSM program and offerings provided in 2014-2015.

A. The Company's residential portfolio provides a variety of measures, through different delivery channels, offering energy efficiency improvement opportunities to Avista customers. The majority of the residential portfolio is implemented through prescriptive rebates, processed in-house by Avista. New construction and existing residential

homes (up to four-plex) that heat with Avista electric or natural gas, can select from a list of energy efficiency measures available for installation in their homes. Customers must purchase and install the equipment or qualifying energy efficiency measure and submit a rebate application with the appropriate documentation within 90 days of installation in order to receive an incentive.

In the 2014 and 2015 program years, Avista offered the following residential programs to Idaho electric customers noted in Illustration No. 1:

Illustration No. 1:

RESIDENTIAL
- High Efficiency Variable Speed Motor
- High Efficiency Tanked Water Heater
- Space Heat Conversion (Direct Use of Natural Gas)
- Water Heat Conversion (Direct Use of Natural Gas)
- Multifamily Natural Gas Market Transformation (Direct Use of Natural Gas)
- Ceiling, Attic, Floor, Wall Insulation
- Energy Efficient Windows
- ENERGY STAR® Homes
- ENERGY STAR® Appliances
- CFL (and CFL Recycling) Promotions
- "Second" Refrigerator/Freezer Recycling Program - (Discontinued mid-2015)
- Community Events and Workshops
- Low-cost/no-cost information
- On-line Home Energy Audits and Analysis
- Simple Steps Smart Savings (CFLs, LEDs and Showerheads)

The residential programs shown above are primarily standard offerings, otherwise known as prescriptive programs.

Idaho residential customers also received Avista-sponsored programs in the form of manufacturer buy-downs for compact fluorescent lighting (CFL), light-emitting diodes (LED's) and low-flow showerhead measures (Simple Steps Smart Savings). These products have a lower retail price point at the time of purchase and are usually part of a regional, multi-state program offering.

Q. Please describe the nonresidential DSM offerings provided during this time.

A. Within the nonresidential segment, programs are offered to retail electric and natural gas customers through a combination of prescriptive rebates and site specific assessments. Prescriptive rebates are geared toward relatively uniform measures, applications and energy savings. This delivery method reduces implementation expense while simplifying participation for both customers and trade allies.

The site specific offerings are available for all other efficiency measures and applications that are unique to a customer's business. In these situations, each energy

efficiency project is individually analyzed based on the measure being installed and considers other variables that may be present in the building or in the process operation.

Illustration No. 2 below includes a list of nonresidential rebates available for electric customers in the 2014 and 2015 program years:

Illustration No. 2:

NONRESIDENTIAL (COMMERCIAL & INDUSTRIAL)
EnergySmart Grocer
Power Management for PC Networks
*Premium Efficiency Motors
Food Service Equipment
Commercial HVAC Variable Frequency Drives
Retro-Commissioning
Commercial Clothes Washers
Lighting and Controls
Green Motors Rewind Program
*Commercial Windows and Insulation
*Commercial Water Heater Program
*Standby Generator Block Heater
Site Specific Offerings in Various End Uses

*Discontinued in 2015, moved to site-specific program

Avista offers site-specific incentives for commercial and industrial customers for custom projects. The site-specific program provides incentives on cost-effective commercial and industrial energy efficiency measures that meet required simple payback and measure life requirements. This is implemented through on-site audits and analyses, customized project evaluation, and dual fuel incentive

calculators for energy savings generated specific to the customer's premise or process ("project"). Incentives were offered for any measure that had greater than a one-year and less than an eight-year simple payback for lighting measures or less than a thirteen-year simple payback for non-lighting measures.

Q. How does Avista address energy efficiency programs for low-income customers?

A. The residential low-income program is comprised primarily of site-specific offerings delivered by local Community Action Agencies (CAAs) to benefit income-qualified, residential customers. Avista contracts with agencies to utilize existing infrastructure currently in place as a result of delivering the Federal Weatherization Assistance and Low Income Home Energy Assistance Programs (LIHEAP). The customer intake process includes potential consideration of participation for energy assistance and other income-qualified programs that can also serve as referrals for weatherization services.

The program targeted to low-income customers is provided by the Community Action Partnership of Lewiston. The agency receives a set amount of funding each year to make energy efficiency improvements to income-qualified

homes that are heated by Avista electric or natural gas services. These improvements may include upgrades to heating and water heating equipment, ceiling, wall and floor insulation, replacement of windows, doors, and conversions from electric heating to natural gas heating.

Q. What was the cost of Avista's electric efficiency acquisitions?

A. During 2014-15, the Company spent $9,999,742 on Idaho electric DSM programs, of which 47% was paid out to customers in direct incentives pursuant to the cost-effectiveness tests shown in Exhibit No. 1, Schedules 1 and 2. This percentage does not include additional benefits such as technical analyses provided to customers by the Company's DSM engineering staff or regional market transformation efforts through NEEA.

Q. Do the 2014-15 results reflect Avista's participation in regional energy efficiency efforts?

A. No. The numbers reported only include the local acquisition evaluated by the Company's independent evaluator Nexant, and do not include 4,030 MWh of first-year Idaho savings acquired through Northwest Energy Efficiency Alliance's (NEEA) regional efforts. NEEA focuses on using a regional approach to obtain electric efficiency through

the transformation of markets for efficiency measures and services. Avista has been a member of the NEEA, and actively involved in its governance, since the creation of that organization in 1996. As one of fourteen funders, Avista is supportive of the use of a coordinated regional market transformation effort to the extent that the effort is a cost-effective enhancement of, or alternative to, local utility efforts at acquiring those resources for our customers. Avista has committed to NEEA's next funding period of 2015 through 2019, opting in for all NEEA initiatives.

The levelized cost of resources acquired through Avista's Idaho participation in NEEA was $28.9 per first year MWh. This compares with $28.4 per first-year MWh for Avista-funded local cost-effective energy efficiency programs in Idaho. During 2014 Avista's Idaho-related NEEA funding was $603,481, and for 2015 Avista's Idaho-related NEEA funding was $563,571.

As will be discussed late in my testimony, the Idaho electric programs have been cost-effective, including Avista's participation in NEEA, from both a Total Resource Cost (TRC) test and Program Administrator Cost (PAC) test perspective.

Q. What is the status of the Idaho electric and natural gas tariff rider balances?

A. At December 31, 2015, the Idaho electric and natural gas tariff rider balances were $431,784 underfunded and $60,768 underfunded, respectively (i.e. dollars expended exceeded dollars collected through the Tariff Rider)[1].

Q. Please describe the opportunity for external participation in Avista's DSM activities.

A. The Company has had continuous energy efficiency stakeholder involvement since 1992. The Company's program offerings, planning, evaluation findings, underlying cost-effectiveness tests and results are reviewed during stakeholder meetings. Currently, the Company holds in-person meetings at least twice per year, hosts several webinars annually, provides a full analysis of the results of DSM operations on an annual and monthly basis, identifies large projects and provides a quarterly newsletter summarizing recent DSM activities[2]. Since January 2016, Avista has held several meetings with its Advisory Group, by way of conference calls, emails and webinars as well as two in-

[1] The tariff rider adjustments were approved effective October 1, 2013 for electric and January 1, 2016 for natural gas.
[2] With appropriate precautions for customer confidentiality.

person meetings. The spring meeting, which was on the heels of the Spring NEEA Energy Exchange Conference in Coeur d'Alene, ID, was one of the most attended meetings in several years, with 12 external members in-person and two additional externals calling in. In addition, the Company had numerous phone discussions with the Advisory Group on topics related to DSM activities, as well as current and future evaluations. Avista's DSM Advisory Group consists of interested regulatory, consumer and energy industry parties[3].

Avista appreciates the active engagement of many parties, including the Commission Staff as part of our Energy Efficiency Advisory Group. Additionally, the Snake River Alliance, the Northwest Energy Coalition, University of Idaho Integrated Design Lab, and the Northwest Industrial Gas Users have representation on Avista's Advisory Group.

III. PRUDENCE OF INCURRED DSM COSTS

Q. Would you please explain the Company's request for a finding of prudence in this case?

[3] The Advisory Group is Avista's non-binding oversight and advisory group for energy efficiency. The Advisory group is currently composed of the IPUC Staff, UTC staff, OPUC Staff, the Public Counsel Unit of the Washington Office of Attorney General, Northwest Energy Coalition, SNAP, The Energy Project, Northwest Energy Efficiency Alliance, Northwest Power and Conservation Council, Northwest Energy Efficiency Council, Idaho Conservation League, Putnam Price and the Opportunity Council.

A. Yes. The Idaho electric programs have been cost-effective from both a Total Resource Cost (TRC) test and Program Administrator Cost (PAC) test perspective. The 2014 TRC benefit-to-cost ratio of 1.76 for the Idaho electric DSM portfolio is cost-effective, with a residual TRC benefit to customers of over $6.0 million as provided in Exhibit No.1, Schedule 1. The 2015 TRC benefit-to-cost ratio of 1.29 for the Idaho electric DSM portfolio is cost-effective, with a residual TRC benefit to customers of over $2.4 million. The PAC, also known as the Utility Cost Test (UCT), benefit-to-cost ratio during 2014 was 3.22, with a residual PAC benefit of nearly $9.1 million. The benefit-to-cost ratio during 2015 was 2.39, with a residual PAC benefit of nearly $6.1 million. These are summarized in Exhibit No. 1, Schedule 2, starting at page 6.

Q. Please summarize the Company's energy efficiency-related savings for this period?

A. From January 1, 2014 through December 31, 2015, the Company achieved 35,111 MWh of savings, including NEEA, on a gross basis. Pages 6 through 11 of Exhibit No. 1, Schedule 1 detail the energy savings by regular and low-income portfolios for both electric and natural gas DSM programs.

Q. What evaluation of the Company's DSM programs have occurred?

A. Nexant performed independent, or "third-party" impact and process evaluation on Avista's DSM programs for the 2014-15 period. Impact evaluation is intended to verify, and adjust as necessary, "claimed" savings. Process evaluation reviews "procedures" for continual improvement.

Nexant concluded that Avista's Idaho electric DSM programs achieved 31,081 MWh in 2014-15 cost-effectively and that Avista's 2014-2015 energy efficiency programs addressed all impact and process evaluation needs in accordance with industry and regulatory standards.

Q. What efforts to improve the management of its DSM program has Avista made since its last request for DSM prudence in Idaho?

A. Avista continues to actively manage and monitor the progress of its programs that are delivered to customers with an emphasis on continuous improvements. We hold weekly meetings with Program Managers and Management to serve as an opportunity for status reports on project progress, results, and current issues. Avista's DSM management continues to focus on the employment of utility best practices related to DSM program implementation and oversight.

The Company's DSM team achieved its combined 2014-2015 savings targets, by continuously innovating, adapting, and expanding program offerings. The Company remains committed to its approach to energy efficiency, based on two key principles. The first is to pursue all cost-effective kilowatt hours and therms by offering financial incentives for most energy saving measures with a simple financial payback of over one year. The second key principle is to use the most effective "mechanism" to deliver energy efficiency services to customers.

Avista is finalizing contract negotiations with Nexant to purchase and integrate their iEnergy DSM Central enterprise software as the single system of record. The Company believes that a single system of record will improve its reporting ability, as well as, increase transparency by providing external stakeholders remote access. The Company has been utilizing past business mapping exercises, as well as coordinating with other regional utilities on potential program templates which may help speed the software integration.

IV. SUMMARY OF REQUEST

Q. Please summarize Avista's request in this case?

A. The Company requests a finding that the expenditure of tariff rider revenue has been reasonable and prudent. A portfolio of programs covering all customer classes has been offered with gross savings of 35,111 MWh during January 1, 2014 through December 31, 2015. The 2014-15 UCT benefit-to-cost ratio of 2.79 for the electric DSM portfolio is cost-effective.

The Tariff Rider funded programs have been successful. Participating customers have benefited through lower bills. Non-participating customers have benefited from the Company having acquired lower cost resources as well as maintaining the energy efficiency message and infrastructure for the benefit of our service territory.

V. OTHER COMPANY WITNESSES

Q. Would you please provide a brief summary of the testimony of the other witness representing Avista in this proceeding?

A. Yes. The following additional witness is sponsoring direct testimony on behalf of Avista:

Lynn Roy, CEM, Principal at Nexant will present the results of third party verification of Avista's 2014-15 DSM

electric portfolio. Ms. Roy will describe the methodology and conclusions of her company's independent impact evaluations and process evaluations that are a central component of Avista's Evaluation, Measurement, and Verification (EM&V) Framework and EM&V Plan.

Her testimony concludes that Avista's Idaho electric DSM programs achieved 31,081 MWh in 2014-15 cost-effectively and that Avista's 2014-2015 energy efficiency programs addressed all impact and process evaluation needs in accordance with industry and regulatory standards.

VI. IDAHO RESEARCH AND DEVELOPMENT

Q. Please provide an update on Avista's research and development work with Idaho Universities.

A. On August 30, 2013 Avista filed a request with the Commission to authorize up to $300,000 per year of Schedule 91, DSM Tariff Rider revenue to fund applied research at Idaho's universities through a "call for papers" approach. The intent of this initiative is to supplement the pipeline of emerging technology. The Commission approved this request in Case No. AVU-E-13-08 on October 30, 2013. The Company filed its Annual Report on March 31, 2016.

The following is a brief description of each of the four selected projects for the 2015-2016 collegiate year:

Increasing Hydropower Generating Efficiency through Drag Reduction: Energy loss due to friction occurs at various phases of hydropower generation. This research investigates the potential of reducing the energy loss in the penstock so that more energy is available for power generation. The concrete/cement surface of penstock inner walls is hydrophilic. Nanotechnology has made it possible to make these surfaces hydrophobic or even super-hydrophobic. Frictional drag reduction by hydrophobicity over concrete surface treated with Zycosil has not been demonstrated or quantified. This project evaluates the potential of frictional drag reduction over Zycosil-treated surfaces.

Bidirectional Charger Effects on Local Electrical Grids with Limited Access: With the increasing popularity of electrical vehicles and the anticipated decrease in their purchase prices over the next several years, electrical vehicles are coming to every commercial and academic campus. On-site charging is a benefit that many employers may want to provide. This project proposes to build a bidirectional charging system on a university campus, a system that operates within the voltages and power levels typical of a home or small commercial building. We will use this charger to investigate the effects of bidirectional charging on the electrical utility system within the building and on nearby buildings.

Simulation-Based Commissioning of Energy Management Control Systems: The research aims to develop a method to use energy simulation and co-simulation software to perform automated and semi-automated pre-commissioning or retrocommissioning (Cx) of the programming that resides inside a constructed building's energy management control system (EMS). This phase of the research is to complete manual proof of concept work, benchmark baseline performance of a chosen test site, and estimate energy savings potential via simulation of alternate building control strategies.

Residential Static VAR Compensator: To develop a smart demand-side management device based on the concept of a Residential Static VAR Compensator (RSVC) for regulating residential voltages, especially during peak demand hours. The proposed residential static VAR compensator reduces

power consumption during peak hours in order to save energy and costs of generation.

Q. Does that complete your pre-filed direct testimony?

A. Yes, it does.